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concluded

wherein the excitation light used by said optical amplifying means has a wavelength capable of producing Raman amplification with respect to optical signals of said second wavelength band, and said optical amplifying means supplying said excitation light which has the wavelength capable of producing the Raman amplification with respect to the optical signals of said second wavelength band to a Raman amplification producing medium which forms at least a part of an external transmission path arranged on a pre-stage side of said optical amplifying means, so that wavelength division multiplexed signal light which contains optical signals of the second wavelength band which have been selectively Raman amplified by said Raman amplification producing medium, is input to said optical amplifying means.

18. (TWICE AMENDED) An optical amplifier for amplifying wavelength division multiplexed signal light which has respective optical signals of a first wavelength band of a C band containing a plurality of optical signals with several wavelengths different from each other and a second wavelength band of a L band containing a plurality of optical signals with several wavelengths different from the wavelengths of the optical signals contained in the first wavelength band, comprising:

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an optical amplifying unit amplifying said wavelength division multiplexed signal light using a rare earth element doped fiber to which excitation light is supplied,

wherein the excitation light used by said optical amplifying unit has a wavelength capable of producing Raman amplification with respect to optical signals of said second wavelength band, and

said optical amplifying unit supplying said excitation light which has the wavelength capable of producing the Raman amplification with respect to the optical signals of said second wavelength band to a Raman amplification producing medium which forms at least a part of an external transmission path arranged on a pre-stage side of said optical amplifying unit, so that wavelength division multiplexed signal light which contains optical signals of the second wavelength band which have been selectively Raman amplified by said Raman amplification producing medium, is input to said optical amplifying unit.

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31. (TWICE AMENDED) An optical amplifier for amplifying wavelength division multiplexed signal light which has respective optical signals of a first wavelength band of a C band containing a plurality of optical signals with several wavelengths different from each other and a second wavelength band of a L band containing a plurality of optical signals with several wavelengths different from the wavelengths of the optical signals contained in the first wavelength band, comprising:

an optical amplifying unit amplifying said wavelength division multiplexed signal light, and supplying an excitation light having a wavelength capable of producing a Raman amplification with

respect to the optical signals of said second wavelength band to a Raman amplification producing medium which forms at least a part of an external transmission path arranged on a pre-stage side of said optical amplifying unit, so that wavelength division multiplexed signal light which contains optical signals of the second wavelength band which have been selectively Raman amplified by said Raman amplification producing medium, is input to said optical amplifying unit.

32. (TWICE AMENDED) An optical amplifier for amplifying wavelength division multiplexed signal light which has respective optical signals of a first wavelength band of a C band containing a plurality of optical signals with several wavelengths different from each other and a second wavelength band of a L band containing a plurality of optical signals with several wavelengths different from the wavelengths of the optical signals contained in the first wavelength band, comprising:

optical amplifying means amplifying said wavelength division multiplexed signal light, and supplying an excitation light having a wavelength capable of producing a Raman amplification with respect to the optical signals of said second wavelength band to a Raman amplification producing medium which forms at least a part of an external transmission path arranged on a pre-stage side of said optical amplifying means, so that wavelength division multiplexed signal light which contains optical signals of the second wavelength band which have been selectively Raman amplified by said Raman amplification producing medium, is input to said optical amplifying means.

33. (ONCE AMENDED) An optical amplifier, comprising:

an optical amplifying unit to amplify wavelength division multiplexed signal light which has respective optical signals of a first wavelength band of a C band containing a plurality of optical signals with several wavelengths different from each other and a second wavelength band of a L band containing a plurality of optical signals with several wavelengths different from the wavelengths of the optical signals contained in the first wavelength band, wherein,

said optical amplifying unit amplifies said wavelength division multiplexed signal light, and supplies an excitation light having a wavelength capable of producing a Raman amplification with respect to the optical signals of said second wavelength band to a Raman amplification producing medium which forms at least a part of an external transmission path arranged on a pre-stage side of said optical amplifying means, so that wavelength division multiplexed signal light which contains optical signals of the second wavelength band which have been selectively Raman amplified by said Raman amplification producing medium, is input to said optical amplifying unit, and

a C/L ratio control section, controlling a balance between a first wavelength band optical signal power and a second wavelength band optical signal power.